AUTODOC CLUB

How to change front strut mount on **BMW X3 E83** – replacement guide

VIDEO TUTORIAL



Important!

This replacement procedure can be used for:
BMW 3 Touring (E91) 325i 3.0, BMW 3 Touring (E91) 318d 2.0, BMW 5 Saloon (E39) 520i 2.0, BMW 5 Saloon (E39) 525tds 2.5, BMW 5 Saloon (E39) 523i 2.5, BMW 5 Saloon (E39) 528i 2.8, BMW 3 Saloon (E90) 318d 2.0, BMW 5 Touring (E39) 520i 2.0, BMW 5 Touring (E39) 523i 2.5, BMW 5 Saloon (E39) 525td 2.5, BMW 3 Saloon (E46) 318i 1.9, BMW 3 Saloon (E46) 328i 2.8, BMW 3 Saloon (E46) 320d 2.0, BMW 5 Touring (E39) 528i 2.8, BMW 3 Saloon (E46) 323i 2.5, (+ 254)

The steps may slightly vary depending on the car design.

REPLACEMENT: STRUT MOUNT – BMW X3 E83. TOOLS YOU MIGHT NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Copper grease
- Torque wrench
- Combination spanner #16
- Drive socket # 13
- Drive socket # 16
- Drive socket # 18
- Drive socket # 19
- Drive socket # 21
- HEX bit No.H6
- Shock absorber socket
- Wheel impact socket #17
- Ratchet wrench
- Crow bar
- Hydraulic strut spring compressor
- Hydraulic transmission jack
- Fender cover
- Wheel chock

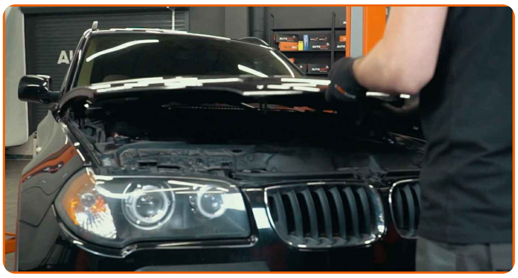
BUY TOOLS

Replacement: strut mount – BMW X3 E83. AUTODOC experts recommend:

- The replacement procedure is identical for the mounts of the left and right shock struts of the front suspension.
- All mounts of the front shock struts should be replaced simultaneously.
- Please note: all work on the car – BMW X3 E83 – should be done with the engine switched off.

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

1 Open the bonnet.



2 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.



3

Clean the fasteners of the shock strut upper mount. Use a wire brush. Use WD-40 spray.



4

Loosen the upper fasteners of the suspension strut. Use a drive socket #13. Use a ratchet wrench.



5

Secure the wheels with chocks.

6

Loosen the wheel mounting bolts. Use wheel impact socket #17.



7

Raise the front of the car and secure on supports.



8 Unscrew the wheel bolts.



AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while unscrewing the fastening bolts. BMW X3 E83

9 Remove the wheel.



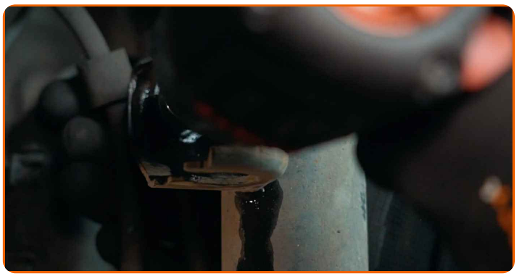
10 Disconnect the brake hose.



11 Clean the stabiliser link fasteners. Use a wire brush. Use WD-40 spray.



12 Unscrew the fastener connecting the stabilizer link to the shock strut. Use a drive socket #16. Use a ratchet wrench.



13 Remove the stabilizer rod.



14 Disconnect the ABS sensor wiring.



15 Clean the lower fastener connecting the suspension strut to the steering knuckle. Use a wire brush. Use WD-40 spray.

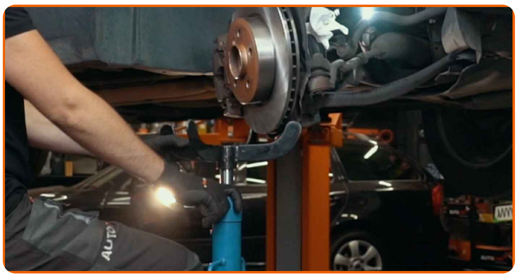
16 Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a combination spanner #16. Use a drive socket #18. Use a ratchet wrench.



17 Remove the fastening bolt.



18 Prop up the steering knuckle. Use a hydraulic transmission jack.



19 Release the lower fastener connecting the shock strut to the steering knuckle. Use a special drive socket to remove the shock absorber. Use a ratchet wrench.



20 Clean all joints of the arm. Use a wire brush. Use WD-40 spray.



AUTODOC recommends:

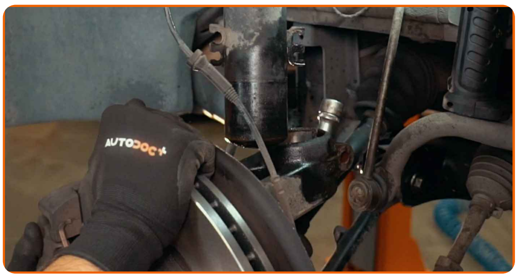
- Replacement: strut mount – BMW X3 E83. After applying the spray, wait a few minutes.

21 Unscrew the fastener connecting the control arm to the subframe. Use a combination spanner #16. Use a drive socket #18. Use a ratchet wrench.



22 Lower the hydraulic transmission jack by 10-15 cm.

23 Disconnect the steering knuckle from the shock absorber strut.



24 Unscrew the upper fasteners of the shock strut.

AUTODOC recommends:

- BMW X3 E83 – To avoid injury, hold the suspension strut while unscrewing the fastening bolts.

25 Remove the suspension strut.



26 Set the shock absorber strut on the spring compressor tool.



Replacement: strut mount – BMW X3 E83. Professionals recommend:

- Note that when using a spring compressor, spring coils need to be securely gripped, compressing the spring on the opposite sides.
- Ensure the correct position of the spring in the retainer.
- Make sure that the spring coils tightly entered the lock handles.

27 Compress the spring.



28 Remove the shock strut mount cap. Use a crowbar.



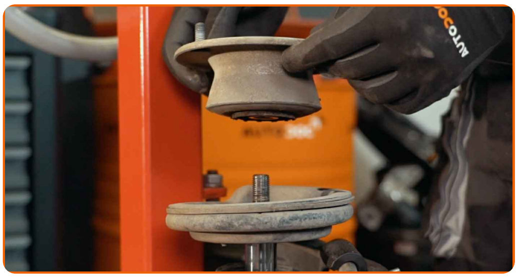
29 Treat the shock strut rod. Use a wire brush. Use WD-40 spray.



30 Remove the strut piston rod nut. Use a drive socket #21. Use HEX No.H6. Use a ratchet wrench.



31 Remove the top strut mount.



Replacement: strut mount – BMW X3 E83. AUTODOC recommends:

- Examine the shock absorber dust cap and the bump stop. Replace them if necessary.

32 Install a new top shock strut mount.



33 Tighten the shock strut piston rod nut. Use a drive socket #19. Use HEX No.H6. Use a torque wrench. Tighten it to 64 Nm torque.



Replacement: strut mount – BMW X3 E83. Tip from AUTODOC experts:

- Check to make sure the spring is positioned correctly. Avoid its misalignment.

34 Treat the shock strut rod. Use copper grease.



35 Install the shock strut mount cap.

36 Decompress the spring.



37 Remove the assembled shock strut.



38 Clean the mounting seats of the shock strut. Use a wire brush. Use WD-40 spray.



39 Install the shock strut into the wheel arch.

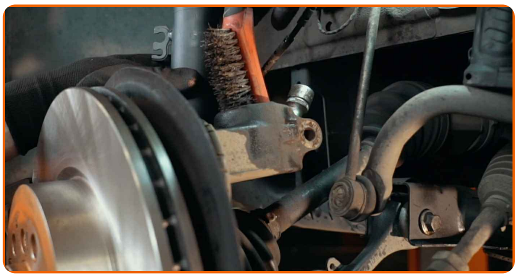


40 Secure the upper fasteners of the shock strut. Do not tighten it.

AUTODOC recommends:

- BMW X3 E83 – To avoid injury, hold the suspension strut while screwing in the fastening bolts.

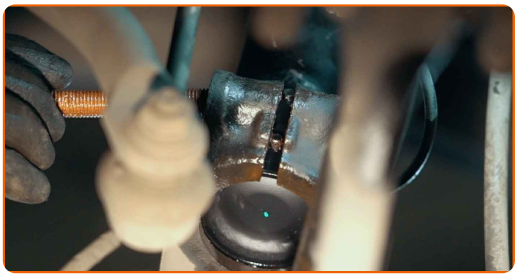
41 Treat the shock strut mounting seat on the steering knuckle. Use a wire brush. Use WD-40 spray.



42 Fix the shock absorber strut on the steering knuckle.



43 Install the fastening bolt.



44 Screw in the fastener that connects the shock strut to the steering knuckle. Use a combination spanner #16. Use a drive socket #18. Use a ratchet wrench.

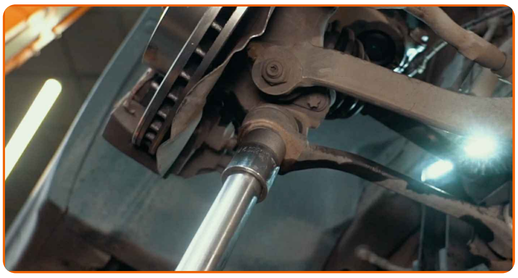


45 Remove the support from under the steering knuckle.

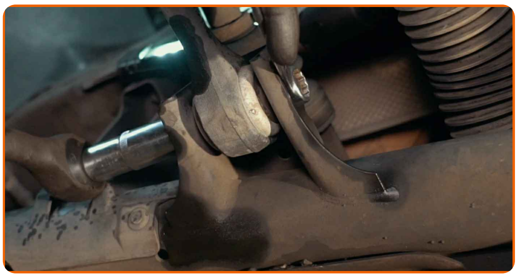
AUTODOC recommends:

- Replacement: strut mount – BMW X3 E83. Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

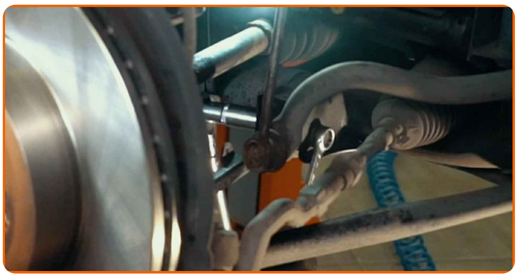
46 Support the arm. Use a hydraulic transmission jack.



47 Screw the fastener connecting the control arm to the subframe. Use a combination spanner #16. Use a drive socket #18. Use a ratchet wrench.

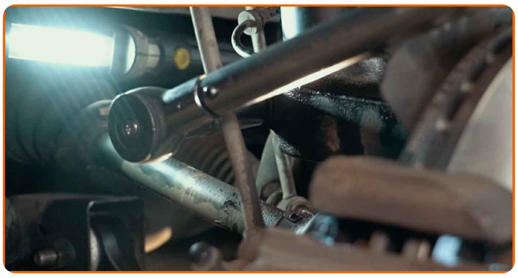


48 Tighten the fasteners connecting the control arm and the subframe. Use a combination spanner #16. Use a drive socket #18. Use a torque wrench. Tighten it to 110 Nm torque.



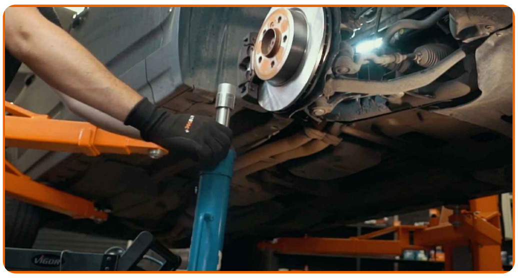
49

Tighten the lower fastening of the shock absorber. Use a drive socket #16. Use a drive socket #18. Use a torque wrench. Tighten it to 100 Nm torque.



50

Remove the support from under the arm.

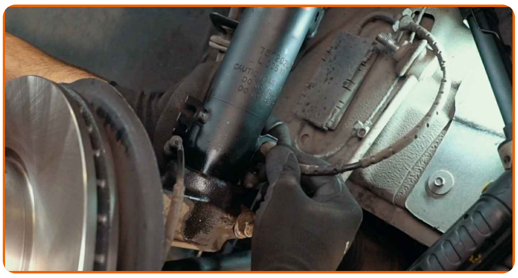


AUTODOC recommends:

- BMW X3 E83 – Do not lower the transmission jack sharply to avoid damaging components and mechanisms of the car.

51

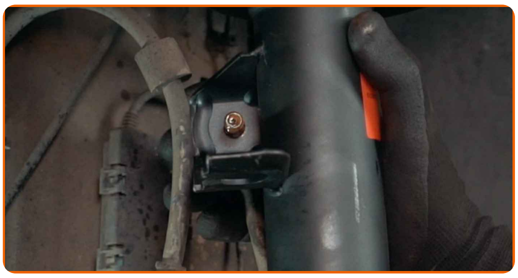
Connect the ABS sensor wiring.



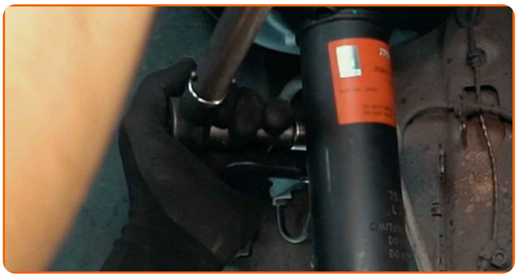
52 Clean the mounting seats of the stabiliser link. Use a wire brush. Use WD-40 spray.



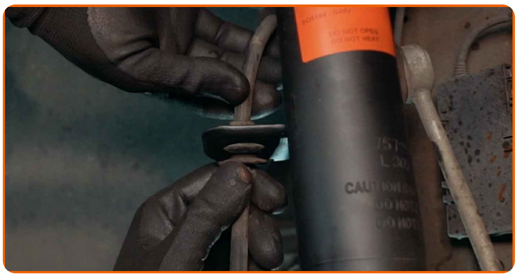
53 Install the transverse stabilizer link.



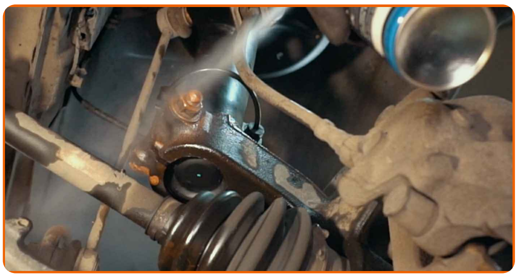
54 Tighten the fastener connecting the stabilizer link to the shock strut. Use a drive socket #16. Use a torque wrench. Tighten it to 65 Nm torque.



55 Attach the brake hose.



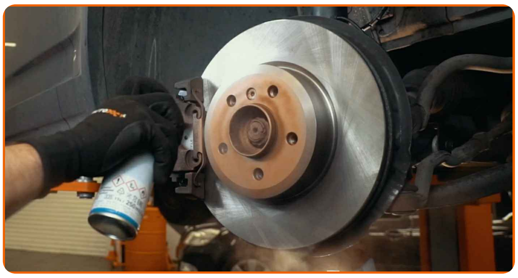
56 Treat all joints of the arm. Treat the shock strut fasteners. Use copper grease.



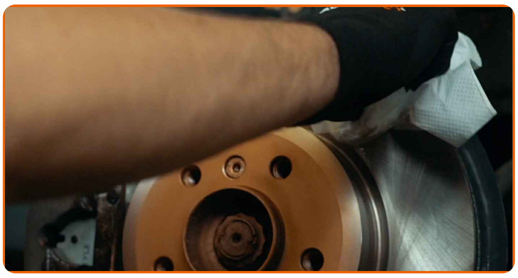
57 Clean the wheel rim mounting seat. Use a wire brush.



58 Treat the surface where the brake disc contacts the wheel rim. Use copper grease.



59 Clean the brake disk surface. Use a brake cleaner.



AUTODOC recommends:

- Replacement: strut mount – BMW X3 E83. After applying the spray, wait a few minutes.

60 Install the wheel.



AUTODOC recommends:

- Important! Hold the wheel while screwing in the fastening bolts. BMW X3 E83

61 Screw in the wheel bolts. Use wheel impact socket #17.



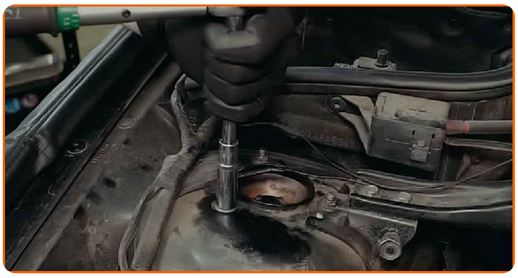
62 Lower the car and working in a cross order, tighten the wheel bolts. Use wheel impact socket #17. Use a torque wrench. Tighten it to 140 Nm torque.



63 Remove the jacks and chocks.



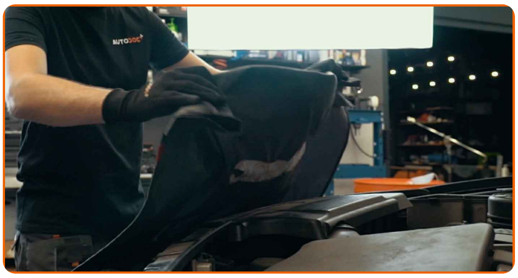
64 Tighten the upper fasteners of the shock strut. Use a drive socket #13. Use a torque wrench. Tighten it to 32 Nm torque.



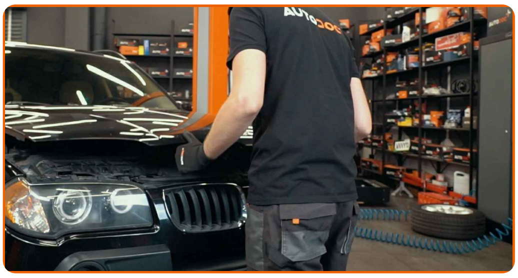
65 Treat the fasteners of the shock strut mount. Use copper grease.



66 Remove the fender protection cover.



67 Close the hood.



WELL DONE!

VIEW MORE TUTORIALS

AUTODOC — TOP QUALITY AND AFFORDABLE CAR PARTS ONLINE

DISCLAIMER:

The document contains only general recommendations that may be useful for you when you perform repair or replacement work. AUTODOC shall not be liable for any loss, injury, damage of property occurring in the repair or replacement process due to incorrect use or misinterpretation of the provided information.

AUTODOC shall not be liable for any possible mistakes and uncertainties in this guide. The information provided is for information purposes only and cannot replace advice from specialists.

AUTODOC shall not be liable for incorrect or hazardous usage of equipment, tools and car parts. AUTODOC strongly recommends to be careful and observe the safety rules when performing repair or replacement works. Remember: usage of low quality auto parts does not guarantee you the appropriate level of road safety.